REMARKS

Claims 1 and 2 have been amended. Support for the amendments to those claims may be found throughout the specification.

Claims 1-33 are pending in the subject application.

In the Office Action dated May 3, 2001, the Examiner allowed claims 12-33 and rejected claims 1-4 and 6-8. Claims 5 and 9-11 were objected to as being dependent upon a rejected base claim, but have been indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Favorable reconsideration of the application and allowance of all of the pending claims are respectfully requested in view of the above amendments and the following remarks.

As a preliminary matter, Applicant asserts that the amendments to the previously existing claims have been made solely for the purposes of clarity and readability. These amendments are not intended to narrow the scope of the claims and have not been made for reasons related to patentability. Applicant respectfully submits that these claims would have been patentable over the cited art of record and would have met the requirements of 35 U.S.C. §112 without these amendments.

The Examiner has rejected claims 1, 2, 4, 7 and 8 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,175,099 (Shei et al.). Briefly, the Shei et al. patent discloses an oven for maintaining cooked foods at temperatures suitable for serving or cooking the foods. The oven includes a cabinet containing multiple heat sinks having ends that open out of the cabinet. The interior surface of each heat sink generally conforms to the cross-sectional shapes of trays carrying foods that are inserted into the heat sinks. The heat sinks have heating elements extending along their sides and bottoms for elevating the temperature of the heat sinks and directing heat into the trays. The cabinet further includes electrical controls which control the temperature at which the heating elements of the heat sinks operate.

In contrast, the present invention is directed toward a temperature control system for heating medical items to desired temperatures. The system includes a housing, a heating compartment

within the housing to receive at least one medical item, a heating assembly disposed within the heating compartment that includes a heater, a temperature sensor and a heating plate, and a controller to facilitate entry of a desired temperature and to control a thermal output of the heater to heat medical items disposed within the compartment to an entered desired temperature based on a temperature measured by the temperature sensor. The heating plate includes a first wall and a plurality of secondary conducting walls, and the heater is attached to and covers selected portions of the first wall to directly apply heat to the first wall. The secondary conducting walls are attached to the first wall and receive applied heat through conduction from the first wall, resulting in a substantially uniform heat distribution to the medical item disposed between the secondary conducting walls.

The Examiner takes the position that the Shei et al. patent discloses all of the features of claims 1, 2, 4, 7 and 8. Specifically, the Examiner asserts that the Shei et al. patent discloses a U-shaped heating plate 46 with first wall 50 and second walls 52, where heat is applied at the first wall 50. The Examiner further asserts that sensor-based control means are inherent in the disclosure of the Shei et al. patent.

This rejection is respectfully traversed since the Shei et al. patent does not disclose, teach or suggest the features of a heating chamber to receive at least one medical item, a heating plate with secondary walls being attached to a first wall outside the portions of the first wall covered by the heater and a controller facilitating entry of a desired temperature and controlling the thermal output of the heater to heat the medical item to the entered desired temperature based upon the temperature measured by the temperature sensor as recited in independent claim 1.

However, in order to expedite prosecution of the subject application, independent claim 1 has been amended to recite the feature of the heating plate including a medical item support platform to support at least one medical item within the heating compartment. Independent claim 1 further recites the features of the secondary walls being attached to the support platform outside the portions of the support platform covered by the heater and a controller facilitating entry of a desired temperature and controlling the thermal output of the heater to heat the medical item to the entered

desired temperature based upon the temperature measured by the temperature sensor.

The Shei et al. patent does not disclose, teach or suggest these features. Rather, the Shei et al. patent discloses receiving and holding trays with food items, as opposed to a platform for supporting one or more medical items as recited in the claim. Further, the Shei et al. patent discloses (see Col. 4, lines 51-67) that each heat sink includes a heater in the form of a flexible heating element that extends almost the full length of the heat sink, covering a flat bottom surface of the heat sink bottom wall, the corners between the bottom and side walls of the heat sink and the flat outside surfaces on the lower regions of the side walls. Therefore, the heat sink of the Shei et al. patent, which the Examiner alleges to anticipate the claimed heating plate, includes a heating element that directly heats each wall of the heat sink, in contrast to the secondary walls being attached to the support platform at locations outside the selected portions of the support platform including the heater to receive the applied heat through conduction from the support platform as recited in the claim.

Although the Shei et al. patent discloses electrical controls which control the temperature at which the heating elements of the sinks operate (see Col. 6, lines 32-36), there is no disclosure of any temperature sensor disposed within the heating compartment or heat sink of the oven, or, for that matter, a sensor utilized to provide feedback to a controller as recited in the claim. Thus, it is respectfully submitted that the claimed feature of the temperature sensor is not inherently disclosed in the Shei et al. patent. Since the Shei et al. patent does not disclose, teach or suggest the above-discussed features recited in independent claim 1, this claim is considered to be in condition for allowance.

Claims 2, 4, 7 and 8 depend either directly or indirectly from claim 1 and include all the limitations of their parent claim. Therefore, these claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to claim 1 and for further limitations recited in these dependent claims. For example, claim 4 recites a protective panel covering at least a portion of the heater to prevent contact between a user and the heater. The Shei et al. patent simply does not disclose, teach or suggest this feature. In addition, claim 7 recites the

feature of the controller enabling the heater to heat the heating plate in response to the temperature measured by the temperature sensor being below the entered desired temperature and disabling the heater in response to the temperature measured by the temperature sensor being at or exceeding the entered desired temperature. As discussed above, the Shei et al. patent simply does not disclose, teach or suggest a temperature sensor or a controller in communication with a temperature sensor. Since the Shei et al. patent does not disclose, teach or suggest the features recited in claims 2, 4, 7 and 8, these claims are considered to be in condition for allowance.

The Examiner has rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,175,099 (Shei et al.) in view of U.S. Patent No. 5,653,905 (McKinney). Briefly, the Shei et al. patent discloses an oven as described above. The McKinney patent discloses a holding oven including a chamber for heating and keeping foods warm, where the oven is specifically designed for creating a natural convection current in the oven chamber. The natural convection current is established by providing a heat conductor in the form of two opposed L-shaped pieces affixed to the bottom and side walls of the cabinet. Heater elements are disposed on a portion of each L-shaped piece, and a holddown plate, constructed of a high thermal capacity material, is disposed over and secures each heater element to each L-shaped piece.

In contrast, the present invention is directed toward a temperature control system for heating medical items to desired temperatures as described above.

The Examiner takes the position that the Shei et al. patent discloses all of the recited subject matter of claim 3 except restriction of the heater to the bottom wall of the heating plate. The Examiner further alleges that the McKinney patent shows effective heat distribution by restriction of the exterior heater to the bottom wall when thermally conductive bottom and side walls are used, and that it would have been obvious to place the heater of the Shei et al. patent only on the bottom plate portion to simplify construction, since the McKinney patent shows such to provide uniform heat in the heated chamber. This rejection is respectfully traversed since the Shei et al. and McKinney patents, either alone or in combination, do not disclose, teach or suggest the features recited in claim 3.

Initially, claim 3 is dependent upon claim 1 and, therefore, includes all the limitations of parent claim 1. Claim 3 further recites the feature of the heater being affixed to an underside of the heating plate bottom wall. As discussed above, the Shei et al. patent does not disclose, teach or suggest the claimed features of the sensor, the controller or the heating plate receiving medical items thereon and including a medical item support platform and secondary conducting walls, where a heater is attached to selected portions of the medical item support platform and the secondary conducting walls are attached to the medical item support platform outside the selected portions. The McKinney patent similarly does not disclose, teach or suggest these features. Rather, the system disclosed in the McKinney patent applies heat directly to portions of both the bottom and side walls of a cabinet utilizing a heat conductor including L-shaped pieces that draw heat up the side walls and away from the central bottom wall floor portion of the cabinet to create a natural heat convection effect within the cabinet for warming foods (see Figs. 7 and 8 and Col. 8, lines 49-55 of McKinney). Thus, the entire heat conductor serves as the heater to cover and directly heat the bottom and side walls of the cabinet, as opposed to secondary walls being attached to a medical item support platform at locations outside the selected portions of the support platform including the heater to heat medical items as recited in the claims.

Even assuming that the L-shaped portions rather than the cabinet of the McKinney patent could be reasonably construed with the claimed heating plate, the McKinney patent still fails to disclose, teach or suggest secondary walls attached to a medical item support platform at locations outside selected portions of the platform containing the heaters as recited in the claims. In fact, the heater elements of the McKinney patent are disclosed as being below the juncture of the foot and leg of each L-shaped portion (see Col. 8, lines 49-51 of McKinney), thereby directly applying heat to the foot and leg. In other words, the leg portion of each L-shaped portion is attached to a corresponding foot portion at a location that directly receives heat from a corresponding heater element, rather than the leg portion being attached to the foot portion outside that foot portion to receive heat via conduction as recited in the claims. Moreover, the McKinney patent does not disclose, teach or suggest a sensor, controller or a medical item support platform to support at least

one medical item as recited in the claims. Since the Shei et al. and McKinney patents do not disclose, teach or suggest, either alone or in combination, the features recited in claim 3, that claim is considered to be in condition for allowance.

It is further submitted that one having ordinary skill in the art would not reasonably combine the teachings of the Shei et al. and McKinney patents, as the devices disclosed in those two patents are distinctly different and are designed for different types of heating. The oven disclosed in the Shei et al. patent directly heats each wall of the heat sink to transfer heat to a tray inserted into the heat sink. In contrast, the oven disclosed in the McKinney patent is specifically designed for creating a natural convection current within the chamber of the oven by utilizing materials of construction having different thermal conductivities and appropriately aligned on the outer walls of the chamber to draw heat away from the center of the chamber bottom wall and up the chamber side walls. Since the ovens of the Shei et al. and McKinney patents are designed differently to provide different types of heating, there is simply no motivation for combining the heating features of the McKinney patent with the teachings of the Shei et al. patent.

The Examiner has rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,175,099 (Shei et al.). Briefly, the Shei et al. patent discloses an oven as described above.

In contrast, the present invention is directed toward a temperature control system for heating medical items to desired temperatures as described above.

The Examiner takes the position that, while the Shei et al. patent does not explicitly disclose the claimed feature of a temperature sensitive switch, it would have been obvious to utilize such a switch in the device of the Shei et al. patent because it is well known in the art to provide thermal fuses for the purpose of preventing excessive heater temperatures which may damage the device. This rejection is respectfully traversed. Initially, claim 6 is dependent upon claim 1 and, therefore, includes all the limitations of parent claim 1. Claim 6 further recites the feature of a temperature sensitive switch in communication with the heater and configured to disable the heater upon measurement of a heater plate temperature in excess of a threshold temperature. As discussed above,

the Shei et al. patent does not disclose, teach or suggest the claimed features of the sensor, the controller or the heating plate receiving medical items thereon and including a medical item support platform and secondary conducting walls, where a heater is attached to selected portions of the medical item support platform and the secondary conducting walls are attached to the medical item support platform outside the selected portions. Further, the Shei et al. patent does not disclose, teach or suggest a temperature sensor or, for that matter, a temperature sensitive switch. Since the Shei et al. patent does not disclose, teach or suggest the above-discussed features recited in claim 6, this claim is considered to be in condition for allowance.

The Examiner further indicates that, since copies of certain documents listed in the Information Disclosure Statement submitted by Applicant on February 27, 2001 have not been received, those documents have not been reviewed. Therefore, the Examiner has not initialed those documents on the Form PTO-1449 submitted by Applicant. It is respectfully submitted that copies of those documents were in fact submitted with the Information Disclosure Statement, and the U.S. Patent and Trademark Office acknowledged receiving those documents by hand delivery as evidenced by the OIPE stamp set forth on Applicant's hand-delivered filing receipt. A copy of that hand-delivered filing receipt is attached to this Amendment along with a copy of the Form PTO-1449 as originally filed and copies of the documents not reviewed by the Examiner. Accordingly, the Examiner is requested to initial the documents that were not previously reviewed. It is noted that U.S. Patent Application Serial No. 09/413,532, which was one of the documents cited on originally filed Form PTO-1449 and not initialed by the Examiner, has since issued as U.S. Patent No. 6,259,067. Thus, a copy of that patent has been provided instead of a copy of the application upon which it is based.

Applicant has recently become aware of U.S. Patent No. 3,193,339 (Cooper). The Cooper patent was cited during prosecution of a patent application having related subject matter. Applicant has reviewed that patent and finds it not to be material to patentability of the subject application and/or cumulative in nature with respect to the documents previously cited and/or submitted. However, a copy of that document is provided for the Examiner's convenience and review.

The application, having been shown to overcome issues raised in the Office Action, is considered to be in condition for allowance and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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APPENDIX

Version of Amendments with Markings to Show Changes Made

Please amend claims 1 and 2 as follows.

--1. (Amended) A temperature control system for heating medical items to desired temperatures comprising:

a system housing;

a heating compartment disposed within said housing to receive at least one medical item;

a heating assembly disposed within said heating compartment to heat said compartment and said at least one medical item contained in that compartment, wherein said heating assembly includes:

a heating plate to receive said at least one medical item thereon and to distribute heat within said compartment and to said at least one medical item;

a heater affixed and applying heat to said heating plate; and

a temperature sensor to measure a temperature of said heating plate; and

a controller to facilitate entry of a desired temperature and to control a thermal output of said heater to heat at least one medical item to said entered desired temperature based on said temperature measured by said temperature sensor;

wherein said heating plate includes a [first wall] medical item support platform to support at least one medical item within said heating compartment and a plurality of secondary conducting walls and said heater is attached to and covers selected portions of said [first wall] medical item support platform to directly apply heat to said [first wall] medical item support platform; and

wherein said secondary conducting walls are attached to said [first wall] medical item support platform at locations outside said selected portions and receive said applied heat through conduction from said [first wall] medical item support platform, and wherein said [first] medical item support platform and said secondary conducting walls distribute heat in a substantially uniform manner to

said at least one medical item disposed between said secondary conducting walls.

2. (Amended) The temperature control system of claim 1, wherein said heating plate has a generally U-shaped configuration with said [first wall] medical item support platform including a thermally conductive bottom wall and said secondary conducting walls including two thermally conductive side walls extending from said bottom wall, and wherein said heater is affixed to said bottom wall.--